

Title: **Biological invasion of a fishery by a space competitor: dynamic optimisation of the control program**

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Abstract: This paper deals with the control of an invasive species, void of market value, and acting as a space competitor for a native valuable harvested species. The paper presents a theoretical bioeconomic model describing the interacting dynamics of the two stocks. In the model, control variables are the levels of harvesting effort of each stock, and the target-function maximises the resource rent provided by harvesting the native stock, minus the cost of harvesting the invasive stock. Dynamic optimisation of the model displays the existence of a time-path leading to an optimal steady-state equilibrium where the invasive stock is kept under control, provided harvesting cost of this stock and time-discount rate are moderate, and the problem is addressed early enough.